# The Builder.

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*SATURDAY, NOVEMBER* 30, 1850.

AT the end of last week we went to Edinburgh, on the part of certain commissioners in Jamaica, to examine some iron suspension-bridges which are being constructed for them by Messrs. Dredge and Stephenson,* and were glad to observe an increasing interest felt there in architectural and other artistic matters. The works now going on are not very numerous, but to all that is attempted the inhabitants seem to keep their eyes open, and are evidently wishful that whatever be done should add to the attractiveness of their beautiful city. This feeling is likely to be fostered by the establishment of the "Architectural Institute of Scotland," while that event is itself an evidence of present progress. We informed our readers some time ago of the endeavours that had been made to organise this institution, and of the comparative success that had attended them. Before our present number is issued the Institute of Scotland will have held its first annual general meeting. The report of the council, which is now before us, shows that the first difficulty that met them was the subdivision of the Institute into various classes of membership; and that they ultimately adopted the following five, each class being amenable to its own special bye-laws, in addition to the general laws of the Institute, viz. :—

"Fellows of the Institute, to which architects alone shall be eligible. Associate-Builders of the Institute, to which builders alone shall be eligible. Associate-Draughtsmen of the Institute, to which architectural draughtsmen, who have been seven years in an architect's office, shall alone be eligible. Ordinary Members of the Institute, comprehending all members not eligible to any of the classes previously enumerated. And Honorary Members of the Institute, being foreigners, upon whom the Institute shall confer honorary membership in respect of their professional attainments."†

There are already about 200 members, 37 of whom are fellows, or pure architects. They have appointed a local committee in Glasgow for the purpose of promoting the objects of the Institute in that city.‡

In concluding their report, the council* say —"They are persuaded that in architecture—an art at once historical and creative, rich in resources, and ever responsive to the varying habits and increasing wants of civilised life—there is no inherent finality; and that while a miscellaneous criticism may have its advantages in deterring the unskilful, and in repressing what is faulty or extravagant, it is only by the enlightened combination of well-qualified and competent minds in every department of architectural knowledge, that this science, in which, pre-eminently, the artistic and the practical are combined in equal and mutual dependence, can be carried out progressively to its highest and happiest results."

We were sorry to hear, but not surprised, because it has usually been so, that the four architects of highest standing in Edinburgh, Messrs. Playfair, Graham, Hamilton, and Bryce, have refused to join the body. It is to be hoped, however, now that the scheme has taken a good shape, that they will give, if not their co-operation, at least their names: they owe this to their professional brethren and their art.

Since our last visit to Edinburgh, when we described the buildings then going on,† the Free-church College, erected from the designs of Mr. Playfair, has made considerable progress towards completion. The church attached to it has been opened for service. It is in one span inside, and has an open timber roof wanting in the true expression of Gothic architecture. The whole of the building externally is of the last period of the Pointed style, and is smooth and tame. The centre is marked by two square towers (with the gateway between them), and the church has a third tower. The inner quadrangle has a very picturesque feature in the shape of a lofty flight of steps at the back, between the approaching sides of the building, leading directly up to the spire of the Assembly Hall, which, by the way, is decidedly the best piece of modern Gothic in Edinburgh. Seen from the new town, this spire comes into the composition of the college and improves the effect.

The view from the front of the college is very beautiful. On the right is the Calton-hill, with its heap of monuments (the Prison, Burns's Monument, the High School, and others): before you is the Scott Monument,‡ and the Royal Institution; further on the Princes-street-gardens, stretching round to St. George's Church, with its St. Paul's-like dome, and terminating, on the extreme left, with Edinburgh's historic castle.

It is in the space which occurs between the Free College and the Royal Institution that the new National Gallery is to be built. The first stone, laid some time ago, is cased up, and the works are suspended. If the people of Edinburgh thought as we do, they would never be re-commenced. A better site might surely be found without difficulty. The ground, some of our readers will remember, slopes steeply from the college down to the Royal Institution, and to afford a site for the gallery on the level of the latter building it was necessary to excavate deeply. Unless, therefore, the existing roadway be levelled, which could scarcely be done without the introduction of flights of steps and the abandonment of horse traffic there, the building will be buried. The gallery will have the effect, too, of further filling up the valley that separates the two portions of the city, which, in a picturesque point of view, is not by any means to be desired.

Terrace walls, of Gothic character, are about to be erected around the level plateau on which the Scott Monument stands, and with flights of steps down to the Princes-street Gardens: hereafter, on the death of an annuitant, a fountain will be added to the adornment of the enclosure.

The National Monument on Calton-hill remains in its unfinished state; the attempt to raise sufficient money for its completion by 5*l.* shares, mooted some time since, having failed.*

One of the most important pieces of construction recently executed in the city is the chimney of the Edinburgh gas works, which rises to the height of 341 feet 6 inches, and has cost no less than 5,000*l.* It was designed by Mr. Taylor, the engineer of the works. The contractors for the mason-work of the stone pedestal were Messrs. Gowan, and for the brick-work of the stack Messrs. Bow, of Glasgow. Before the erection, Mr. George Buchanan was called into council, and numerous experiments made, a relation of which the latter gave at a meeting of the Scottish Society of Arts on the 11th inst. A question arose how far the ordinary brick could withstand the pressure arising from so lofty a column. This difficulty was provided for by the increasing thickness of the walls of the chimney from the top towards the bottom, whereby the incumbent pressure being distributed over a larger and larger surface in descending, was diminished in proportion. The whole height, from the foundation to the top, is, as we said, 341½ feet; of this, 77½ feet are occupied by the foundation and square pedestal of stone, and 264 by the brick-work, the thickness of which is diminished towards the top by five successive steps. The upper division extends 93 feet down, and is 15 inches thick, and the internal diameter 11 feet 4 inches at top—the second division 58 feet, and 23 inches thick—the third, 46 feet and 25 inches—the fourth, 40 feet and 30 inches—and the fifth, 35 feet and 35 inches thick, and internal diameter 20 feet. On calculating the weight and pressure on each of these divisions, on the first it was found not to exceed 4½ tons on each square foot: in the middle it increased to 7 tons, and at the base it increased to 8 tons on each square foot. The strength of ordinary brick being estimated at from 20 to 30 tons, the work seemed within the limits of safety; but on finding that a composition brick could be obtained in the neighbourhood, from the brick works of Mr. Livingstone, of Joppa, of much superior strength, somewhat similar to those of St. Rollox, experiments were made

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* These bridges are to be erected at Trelawny. The span of one is 164 feet, and the width 24 feet. The foundations are to be formed with Mitchell's screw piles. Mr. Blayney Walsh, of Kingston, is the commissioners' architect.

† The bye-laws applicable to *fellows* of the Institute are —1. A fellow of the Institute shall not engage in the measurement, valuation, or estimation of any works undertaken, or proposed to be undertaken, by any building artificer or tradesman, except such works as are proposed to be executed, or have been executed, under the member's own designs or directions; excepting also cases in which as an arbiter or referee he may find it proper or necessary for his own guidance and satisfaction to make such measurement, valuation, or estimation. 2. He shall not accept any pecuniary or other consideration or acknowledgment from any builder or other tradesman whose works he may have been engaged to superintend. 3. He shall have no interest nor participation in any trade contract, or the supplying of materials for any works executed under his superintendence or direction. 4. He shall not permit any of his office clerks, clerks of works, or others of his assistants, to accept any pecuniary or other consideration from tradesmen, nor allow his said assistants to participate, directly or indirectly, in any contract, or the supplying of materials for any works executed under his control or superintendence. The bye-laws applicable to associate-builders of the Institute, are—1. An associate-builder of the Institute shall not in any way discharge the professional duties of an architect; and 2. He shall not employ any draughtsman or clerk in an architect's office to make out for him any designs or drawings without the consent of the architect in whose office such draughtsman or clerk is employed.

‡ This consists of the following gentlemen:—Messrs. James Smith, James Salmon, J. T. Rochead, John Burnet, James Brown, William Clarke, and Charles Wilson.

* The council consists of Mr. C. Baillie, advocate; Mr. J. T. Gordon, sheriff of the county of Edinburgh; the Rev. Dr. Grant; Mr. T. Grainger, C.E.; Mr. D. R. Hay; Mr. Cosmo Innes, sheriff of Elgin and Nairn; Lieut.-Col. M'Nayer; Mr. A. Maconochie, of Meadowbank; the Very Rev. E. B. Ramsay; Mr. D. Rhind, architect; Mr. J. Robertson; and Mr. G. Smith, architect. The honorary secretary is Mr. William A. Parker; and the hon. sec. for professional correspondence, Mr. J. Dick Peddie, architect.

† See Vol. VI. pp. 325, 349, &c. &c.

‡ The Scott Monument seems out of upright. Is this effect produced by the varying levels of the land adjacent, or has the ground on which it stands yielded? It is very desirable that this should be ascertained.

* A writer in the last number of the *Edinburgh Quarterly Review*, wherein a series of papers on the architecture of Edinburgh has been commenced (a good sign of rising interest in such matters), says:—"It is not unusual to hear it remarked of the National Monument, that it is so beautiful in its present state, it would be a pity to finish it. Such an opinion can only be founded on ignorance of the intended nature of the building. Those who think it would be at once converted, could they but see the model on which the National Monument is designed. Ruined as it is, the Parthenon still shows the complete Doric order in one of its porticoes and pediments. The columns are there seen with their complete entablature, giving them the appearance of having a superincumbent mass suited to their dimensions. The rise of the pediment above them gives full dignity of effect to the building, and the wall behind the columns gives at once the effect of repose which constitutes the special charm of Greek architecture, and a surface for the complete play of the shadows of the columns, without which their delicacy of shading and their refinement of effect cannot be seen. The ruined Parthenon has a grandeur and majesty which cannot be described."

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